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NATIONAL PHOTOGRAPHIC  
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**BASIC  
IMAGERY  
INTERPRETATION  
REPORT**

# **NANCHANG (NAN-CHANG) AIRFRAME AND MISSILE PLANT 320 (S)**

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STRATEGIC WEAPONS INDUSTRIAL FACILITIES  
PRC  
JUNE 1979

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INSTALLATION OR ACTIVITY NAME				COUNTRY	
UTM COORDINATES	GEOGRAPHIC COORDINATES	CATEGORY	BE NO.	COMIREX NO.	NIETB NO.
NA	28-37-52N 115-55-26E				

MAP REFERENCE

SAC. USATC, Series 200, Sheet 0493-22, Scale 1:200,000

LATEST IMAGERY USED	NEGATION DATE (if required)	25X1
	NA	

**ABSTRACT**

1. (TSR) Nanchang (Nan-chang) Airframe and Missile Plant 320 is one of two airframe plants in the People's Republic of China (PRC) at which both aircraft and missiles are produced. Plant 320 is the production center for the FANTAN A, an indigenously designed fighter/bomber. Since May 1975, five prototype models of the NAN B, a small, indigenously designed jet fighter, have been produced at the plant. The PRC's naval surface-to-surface missile (CSSN-1) is also produced at Plant 320.

2. (TSR) Plant 320 was in existence prior to September 1956, and most of its construction was completed by September 1962. Since then, most construction has been for support buildings and the expansion of existing facilities. As of [redacted] Plant 320 contained 228,150 square meters of floorspace.

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3. (TSR) This report contains a location map, six annotated photographs, a table of chronological and mensural data, and charts of FANTAN A production cycles and CSSN-1 missile shipping container inventories. The report also contains a short summary of past aircraft production.

**INTRODUCTION**

4. (TSR) Nanchang Airframe and Missile Plant 320 is 2.4 nautical miles (nm) south of Nanchang (Figure 1). The adjacent Nanchang Airfield [redacted] is the test and flyaway airfield for the airframe plant. Plant 320 is the only major aircraft production plant in the PRC that is not associated with an aircraft engine plant in the same city. Nanchang Airframe and Missile Plant 320 receives propulsion systems for its products from Zhuzhou (Chu-chou) Aircraft Engine Plant 331 [redacted] 175 nm southwest, and from Chengdu (Cheng-tu) Aircraft Engine Plant 420 [redacted], approximately 600 nm west of the plant.<sup>1</sup>

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5. (S) Mensural data on buildings and structures constructed prior to 1975 was obtained from two DIA publications.<sup>2 3</sup>

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**BASIC DESCRIPTION**

6. (TSR) Nanchang Airframe and Missile Plant 320 is one of the two airframe plants in the PRC at which both aircraft and missiles are produced. Although there are separate production lines, general support facilities are used jointly.

Major administration/engineering buildings associated with these products are in the northern and southern sections of the installation. General support and receiving facilities are in the western area.

7. (TSR) The plant is irregularly shaped, covers approximately 330 acres, and contains 63 major structures (Figure 2 and Table 1). The major structures include a large aircraft assembly building (item 14, Figure 2), two aircraft subassembly/shop buildings (items 20 and 21), and two multistory administration/engineering buildings (items 12 and 23). A unique circular building, which is probably used as a personnel services/recreation center, is also included within the plant area (item 19 and Figure 3).

**Aircraft Production Area**

8. (TSR) Most of the buildings associated with the assembly of the CSSN-1 missile are adjacent to the taxiway in the southeast section of the plant. The aircraft production facilities are generally in the center of the plant, while the ma-

9. (TSR) The major structure in the aircraft production area is the aircraft assembly building (item 14, Figure 2). This is the largest building in the plant and contains 45,416 square meters of floorspace. It has a two-story engineering section, an 11-bay subassembly section, and a high-bay, through-type final assembly section. Other buildings within the aircraft production area include two large subassembly/shop buildings (items 20 and 21), the main administration/engineering building (item 12), a multibay shop/aircraft maintenance building (item 15), an aircraft checkout hangar (item 5), and a large converted hangar (item 4) which is probably used for storage of finished materials for both aircraft and missiles.

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## Missile Production Area

10. (TSR) The missile production area extends along the southeast boundary of the plant. The flow of materials through this area appears to be well organized. Incoming materials are received by rail in the southern and western areas, processed, and used for the fabrication of missile components, with final assembly in the missile final assembly hangar (item 6). A hangar with a shop section attached (item 13) is probably used for final acceptance checkout and preparation for shipping. Several missile shipping containers are usually seen outside this hangar. A rail spur serves the transhipment building (item 17). A large, secured open storage facility (item 26) is used for CSSN-1 missile shipping container storage. A large, multistory missile administration/engineering building (item 23) is centrally located in the missile production area.

## Associated Research Area

11. (TSR) Adjacent to the northwest section of Plant 320 are several buildings that are probably associated with the plant (Figures 2 and 4). This area is probably engaged in the research and exploitation of foreign aircraft technology. A fuselage section of a probable US C-130 (HERCULES) aircraft and other unidentified small aircraft parts have been observed within this area. The presence of a US A-37 (DRAGONFLY) ground attack fighter at the flyaway airfield on several occasions tends to confirm an association with foreign technology. Although the buildings believed to be associated with aircraft are intermingled with other general-purpose buildings, the major buildings in this area include a three-story administration/research building (item 1, Figure 4); a large building with two high, arched bays and doors that could accommodate an aircraft (item 4); and a large shop building (item 3).

## Chronology

12. (TSR) When first observed on TALENT imagery in September 1956, Plant 320 contained approximately 130,065 square meters of floorspace. Most of the construction on major production-type buildings had been completed by September 1962, resulting in approximately 171,700 square meters of floorspace in use. Since that date, construction has been on support facilities and additions to existing facilities. Since 1975, several buildings have been refurbished by replacing structural roof supports and roof surfaces. As of [redacted] Nanchang Airframe and Missile Plant 320 contained 228,150 square meters of floorspace.

## Essential Services

13. (TSR) Nanchang Airframe and Missile Plant 320 is served by the main rail line which extends from the coastal area at Shanghai and proceeds through the southern PRC. Zhuzhou Aircraft Engine Plant 331 is also served by this rail line. The track enters Plant 320 on the south side and divides into two spurs. One spur serves the general warehouse receiving area, and the other spur serves the CSSN-1 transhipment area.

14. (TSR) Electrical power is supplied by the Nanchang Thermal Power Plant Chiliehjie (Chi-li-

chieh; [redacted] 4.5 nm north-northeast of the plant. A separately secured electrical substation (item 55, Figure 2), which contains two control buildings and a transformer yard, distributes power within the plant.

15. (TSR) The plant has a large coal-fueled central heat plant (item 59). Aboveground steamlines extend from the boilerhouse to most of the major buildings of the plant.

16. (TSR) A hospital complex is adjacent to the southwest boundary of the plant.

## Production, 1950s—1969

17. (TSR) Plant 320 has been associated with the production of small piston-engine aircraft since the late 1950s. The COLT (AN-2), a multipurpose biplane transport, was produced until mid-1968. Series production started on this aircraft in 1958 and reached its peak in 1960. A total of approximately 660 COLT were produced.

18. (TSR) While the COLT program was being phased out, series production began in 1964 on the MAX (CC-6), the Chinese version of the Soviet MAX (YAK-18). This aircraft is used by the PRC in a liaison capacity and in the early phase of pilot training. Production of the MAX reached a peak in 1968 and was probably phased out in 1970. Observations of several MAX continue at the plant, where structural maintenance is probably performed on the aircraft.

19. (TSR) As MAX production was being phased out, two indigenously designed, twin-engine

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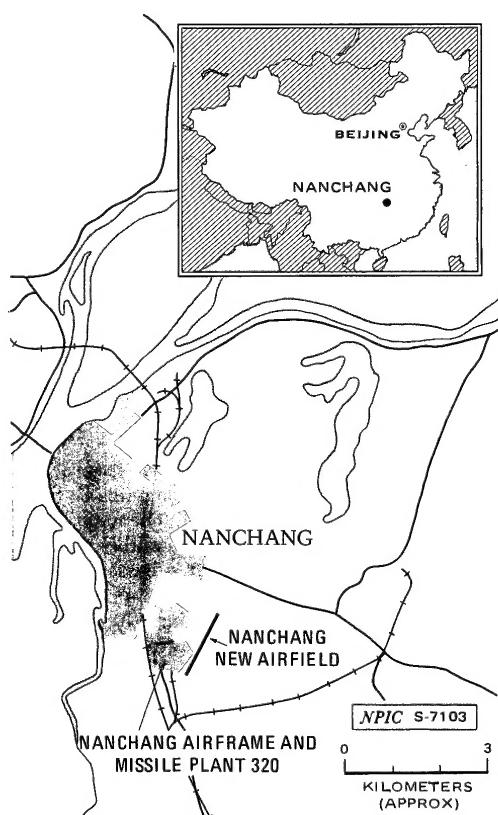


FIGURE 1. LOCATION MAP OF NANCHANG AIRFRAME AND MISSILE PLANT 320, PRC

**Table 1**  
**Nanchang Airframe and Missile Plant 320, PRC**  
**(Keyed to Figure 2)**

Item	Description	Total Floor space (sq ft.)	Date Complete	Remarks
1	Shortstop bldg.	1,050	Jan 71	
2	Shop bldg.	1,885	Jun 78	
3	Shop/ctrl bldg.	1,880	Mar 78	
4	Finished materials stor.	9,257	Mar 78	Previously used as hanger complex; new prod block for material and parts; contains aircraft serial and part numbers
5	Aircraft checkhangar	2,909	Oct 43	FANTHOM A and BAN N
6	Mil final assembly hanger	2,965	Oct 43	CDSN T-37 Have been re-covered at same time on one occasion
7	Mil assembly bldg.	7,178	Dec 70	
8	Shortstop bldg.	2,708	Dec 70	
9	Std bldg.	1,585	Mar 55	
10	Shortstop bldg.	2,001	Mar 55	
11	Std bldg.	487	Sep 69	
12	Shortstop bldg.	6,208	Mar 55	3 stories
13	Maintaining hanger	4,222	Jul 64	ESSENTIAL! Find Douglas conditions are usually in this area
14	Aircraft assembly bldg.	45,816	See test	
15	Maintaining bldg.	1,547	Aug 72	Major addition added in 1972 to include MAINT bldg.
16	Std bldg.	431	Sep 55	2 stories
17	Shortstop bldg.	755	Mar 78	
18	Rock pierceing	5,933	Oct 43	Unique type of bldg seen only as this chart
19	Aircraft subassembly bldg.	14,945	Mar 55	2-story engine section
20	Aircraft subassembly/bldg.	20,827	Oct 69	2-story
21	Aircraft subassembly/bldg.	1,001	Oct 69	2-story
22	Lab bldg.	901	Nov 64	
23	Mil receiving bldg.	4,274	Oct 43	5 stories
24	Cooking towers (2)	270	Nov 94	Each has two columns and is 18' x high
25	Lab bldg.	1,034	Jan 66	
26	Building containing stor loc.	485	Dec 69	Dec test
27	Fuel tanks	725	Sep 69	Sealed area conforms 3 control things w/ all US fuel tank ranks
28	Shop bldg.	1,842	Jun 85	
29	Shop bldg.	2,341	Dec 72	
30	Maintaining bldg.	1,605	Mar 55	Ball record
32	Materials receiving bldg.	6,552	Mar 95	Ball record with bridge crane for moving materials
33	Warehouse	2,908	Aug 68	Ball record with gantry crane
34	Shop bldg.	1,731	May 71	
35	Shop bldg.	1,731	May 71	
36	Shop bldg.	806	Oct 43	
37	Shop Bldg.	2,815	Sept 69	Heat treatment section
38	Shop bldg.	1,805	Sep 69	
39	Shop bldg.	1,805	Sep 69	
40	Shop bldg.	1,731	Aug 65	Additional section added in 1971
41	Shop bldg.	1,731	Aug 65	
42	Shop sheds (2)	8,058	Oct 43	
43	Shop bldg.	2,412	Oct 43	
44	Shop bldg.	2,973	Jul 79	
45	Shop bldg.	2,573	Oct 72	
46	Foundry/shop bldg.	6,710	Jun 85	Wood processing and cutting assembly
47	Carpentry shop	1,250	Jun 84	Wood processing and cutting assembly
48	Carpentry shop	1,250	Nov 64	EGM/T shipping containers assembly
49	Forge/foundry	8,175	Feb 82	
50	Shoo bldg.	1,205	Jan 73	
51	Shoo bldg.	1,205	Jan 73	
52	Admin bldg.	425	Jul 55	
53	Admin bldg.	1,731	Jul 55	
54	Vehicle maint bldg.	1,050	Oct 71	
55	Fire station	990	Jun 85	Garrison secured, containing inc control saddle and a transformer unit
56	Eng/air bldg.	2,640	Aug 72	
57	Eng/air bldg.	2,640	Aug 72	
58	Spk bldg.	1,920	Jan 72	
59	Spk bldg.	1,920	Jan 72	Interlocking stack 44m high
60	Coal preparation bldg.	957	Dec 58	
61	Coal preparation bldg.	1,571	Dec 58	
62	Forge shop	5,611	Jul 77	
63	Spk bldg.	1,920	Jan 72	
Total floor space as of Apr 79		83,934		
Total floor space as of 22 Jun 78		226,110		

piston transport aircraft were observed at the plant in 1969. These aircraft, designated NAN A, have not been seen at the plant since 1970. However, they probably were the prototype of the CHAN A, a similar type of transport, presently in series production at the Harbin (Ha-erh-pin) Airframe Plant Pingfang (Ping-fang) 122 ( ).

### **Current Production**

FANTAN A

20. (TSR) The indigenously designed FANTAN A is now produced at Plant 320. This twin engine jet fighter/bomber, although larger in size, is similar in configuration to the FARMER. The chief difference between the two aircraft is the incorporation of cheek-mounted engine air intakes along the fuselage of the FANTAN A, in contrast to the conventional nose inlet of the FARMER.

21. (TSR) The first FANTAN A was observed at the plant in April 1969. Series production reached a peak in March 1972, when a high count of 111 FANTAN A was observed. This inventory decline cycle of production apparently was underway in July 1972, when a low count of 10 FANTAN A was recorded. A new peak was reached in November 1972, when 110 FANTAN A were recorded. The count had declined to 67 by January 1973, then decreased to 27 by September 1973. A thinning up in production was observed at the plant during the last quarter of 1977; the count increased to 50 FANTAN A by April 1978. This count had gradually decreased to 38 FANTAN A by December 1979, when the last image on an estimated total of 600 FANTAN A have been produced at Plant 23.

22. (TSR) Chart 1 depicts the number of FANTAN A observed at Plant 320 and its flyaway airfield on clear representative imagery available from April 1969 through

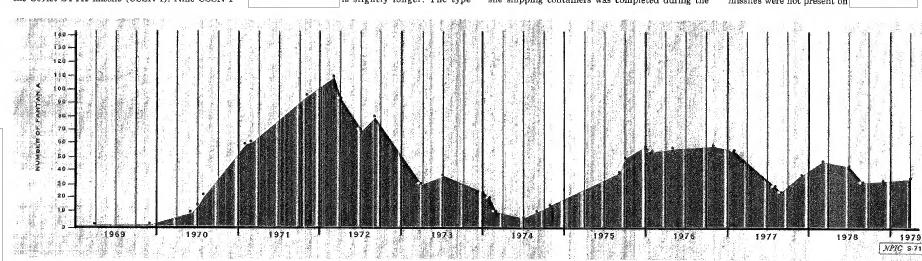
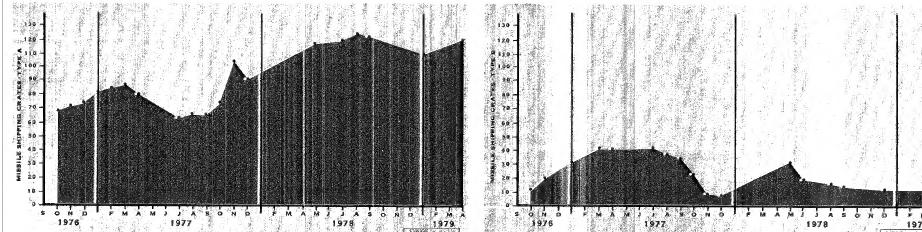


CHART 1. FANTAN A OBSERVED AT NANCHANG AIRFRAME PLANT AND FLYAWAY AIRFIELD



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**REFERENCES**

**IMAGERY**

(TSR) All available, applicable TALENT and KEYHOLE imagery acquired from September 1956 through [redacted] was used in the preparation of this report. Photography acquired during World War II was also used.

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**MAPS OR CHARTS**

SAC. US Air Target Chart, Series 200, Sheet 0493-22, scale 1:200,000 (UNCLASSIFIED)

**DOCUMENTS**

1. DIA. [redacted] DDB-1923-2-78-SAO, *Foreign Aircraft Production Communist World (U)*, May 78 (TOP SECRET) [redacted]
2. DIA. [redacted] SO59560, *Nanchang Airframe Plant 320*, 30 Aug 72 (TOP SECRET) [redacted]
3. DIA. [redacted] RDA 11/0022/75, *Nan-chang Airframe and Guided-Missile Plant 320*, Jun 75 (TOP SECRET) [redacted]

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\*Extracted material is classified SECRET.

**REQUIREMENT**

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(S) Comments and queries regarding this report are welcome. They may be directed to [redacted] Asian Forces Division, Imagery Exploitation Group, NPIC, [redacted]

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